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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/525,998

02/28/2005

Shiro Sakai

08228/073001

6220

22511

7590

02/21/2006

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EXAMINER

NGUYEN, DILINH P

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 02/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/525,998

Applicant(s)

SAKAI ET AL.

Examiner

DiLinh Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/28/05, 8/18/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5 and 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hisashi (JP 2001-307506).

Hisashi discloses a light emitting device wherein a plurality of GaN-based light emitting elements 3, 5 and 6 are formed on an insulating substrate 2, and the plurality of light emitting elements 21 are monolithically formed and connected in series (figs. 1, 4-5, abstract).

- Regarding claim 2, Hisashi discloses that the plurality of light emitting elements are arranged in a two-dimensional pattern on the substrate (figs. 4-5).
- Regarding claim 3, Hisashi discloses that the plurality of light emitting elements are grouped into two groups, and the two groups are connected between two electrodes 11 and 9' or 11' in parallel so that the two groups are of opposite polarities (figs. 1 and 4, paragraph 0017).
- Regarding claim 5, Hisashi discloses that the plurality of light emitting elements are electrically separated by sapphire which is used as the substrate 2 (fig. 1, paragraph 0015).
- Regarding claim 10, Hisashi discloses that an overall shape of the

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plurality of light emitting elements and the electrodes 9', 11 and 11' is approximate square (figs. 1 and 5).

- Regarding claim 11, Hisashi discloses that a light emitting element array comprising the plurality of light emitting elements is arranged in a zigzag pattern (figs. 4-5).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hisashi (JP 2001-307506) in view of Adlerstein et al. (U.S. Pat. 5986324).

Hisashi substantially discloses all the limitations as claimed above except for air bridge lines.

However, Adlerstein et al. disclose an emitter electrode comprising a plurality of emitting elements are connected by air bridge lines 52a and 52b (cover fig., column 4, lines 3-4). Therefore, it would have been obvious to one having ordinary in the art at the time the invention was made to modify the device structure of Hisashi by having a plurality of air bridge lines because as taught by Adlerstein et al., such air bridge lines would provide a current passing through the emitter electrode is distributed uniformly along the length of the electrode thereby enabling the electrode to carry relatively large currents (column 1, lines 55-59).

5. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisashi (JP 2001-307506).

Hisashi substantially discloses all the limitations as claimed above and Hisashi also discloses the plurality of light emitting elements are grouped into two groups having equal numbers of light emitting elements and the two groups of light emitting element arrays are connected between two electrodes in parallel so that they are of opposite polarities (figs. 1 and 4-5).

Hisashi does not explicitly disclose the array of light emitting elements in each group are placed in a zigzag pattern.

However, it would have been an obvious matter of design choice to form the array of light emitting elements in each group are placed in a zigzag pattern, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device structure of Hisashi by form the light emitting elements in each group are placed in a zigzag pattern, the zigzag pattern of light emitting elements in each group would improve functional performance and for the use of different application in the emitting device.

- Regarding claim 7, Hisashi discloses that the two groups of light emitting element arrays are alternately placed (figs. 4-5).
- Regarding claim 8, Hisashi discloses that the light emitting element and the

electrode 9', 11 or 11' have a planar shape of approximate square (figs. 1 and 5).

- Regarding claim 9, Hisashi discloses that the light emitting element has a planar shape of triangle (fig. 4) and it would have been obvious to form the electrode has a planar shape of triangle.

6. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisashi (JP 2001-307506) in view of Kondoh et al. (U.S. Pat. 6194743).

Hisashi substantially disclose all the limitations as claimed above except for the electrode is an electrode for an alternate current power supply and a n electrode.

However, Kondoh et al. discloses a light emitting device comprising the electrode is an electrode for an alternate current power supply and a n electrode (column 1, lines 32-34). Therefore, it would have been obvious to one having ordinary in the art at the time the invention was made to modify the device structure of Hisashi by having the electrode is an electrode for an alternate current power supply and a n electrode because as taught by Kondoh et al., such the current power supply electrode and the n electrode would provide the power source use to drive the light emitting device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DiLinh Nguyen whose telephone number is (571) 272-1712. The examiner can normally be reached on 8:00AM - 6:00PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DLN



HOAI PHAM
PRIMARY EXAMINER